

**REMARKS**

Pursuant to the present amendment, claims 3, 18, 21-24, 29, 40 and 41 have been canceled, claims 1, 2, 4, 16, 20, 25 and 28 have been amended, and new claims 44-55 have been added. Thus, claims 1-2, 4-17, 19-20, 25-28, 30-39 and 42-55 are pending in the present application. No new matter has been introduced by way of the present amendment. Reconsideration of the present application is respectfully requested in view of the amendments and arguments set forth herein.

In the Office Action, claims 1-3, 5-7, 9-11, 13-14, 15-17, 19-27, 28, 30-32, 34-35 and 37-43 were rejected under 35 U.S.C. § 102 as allegedly being anticipated by Kimura (U.S. Patent No. 5,716,264). Claims 4, 8, 12, 18, 27, 29, 33 and 36 were rejected under 35 U.S.C. § 103 as allegedly being unpatentable over Kimura in view of Butterfield (U.S. Patent No. 6,764,389) and Tanaka (U.S. Patent No. 5,902,173). Applicants respectfully traverse the Examiner's rejections.

As the Examiner well knows, an anticipating reference by definition must disclose every limitation of the rejected claim in the same relationship to one another as set forth in the claim. *In re Bond*, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990). To the extent the Examiner relies on principles of inherency in making the anticipation rejections in the Office Action, inherency requires that the asserted proposition necessarily flow from the disclosure. *In re Oelrich*, 212 U.S.P.Q. 323, 326 (C.C.P.A. 1981); *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1463-64 (Bd. Pat. App. & Int. 1990); *Ex parte Skinner*, 2 U.S.P.Q.2d 1788, 1789 (Bd. Pat. App. & Int. 1987); *In re King*, 231 U.S.P.Q. 136, 138 (Fed. Cir. 1986). It is not enough that a reference could have, should have, or would have been used as the claimed invention. "The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *Oelrich*, at 326, quoting *Hansgirk v. Kemmer*, 40 U.S.P.Q. 665, 667 (C.C.P.A. 1939); *In re Rijckaert*, 28 U.S.P.Q.2d 1955, 1957 (Fed.

Cir. 1993), quoting *Oelrich*, at 326; see also *Skinner*, at 1789. “Inherency ... may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.” *Skinner*, at 1789, citing *Oelrich*. Where anticipation is found through inherency, the Office’s burden of establishing prima facie anticipation includes the burden of providing “...some evidence or scientific reasoning to establish the reasonableness of the examiner’s belief that the functional limitation is an inherent characteristic of the prior art.” *Skinner* at 1789.

Moreover, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant’s disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991); M.P.E.P. § 2142. Moreover, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (CCPA 1974). If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988); M.P.E.P. § 2143.03.

With respect to alleged obviousness, there must be something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561 (Fed. Cir. 1986). In fact, the absence of a suggestion to combine is dispositive in an obviousness determination. *Gambro Lundia AB v. Baxter Health-*

*care Corp.*, 110 F.3d 1573 (Fed. Cir. 1997). The mere fact that the prior art can be combined or modified does not make the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990); M.P.E.P. § 2143.01. The consistent criterion for determining obviousness is whether the prior art would have suggested to one of ordinary skill in the art that the process should be carried out and would have a reasonable likelihood of success, viewed in the light of the prior art. Both the suggestion and the expectation of success must be founded in the prior art, not in the Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991; *In re O'Farrell*, 853 F.2d 894 (Fed. Cir. 1988); M.P.E.P. § 2142.

Applying these legal standards, it is respectfully submitted that all pending claims are in condition for immediate allowance. Pursuant to the present amendment, independent claim 1 has been amended to recite that the pad conditioner comprises at least one nozzle having an elongated-shaped opening that is adapted to direct a line-shaped fluid jet toward the polishing pad. Support for the amendment to claim 1 is found in the specification at, for example, page 14, line 21, through page 15, line 4, and Figure 5. As thus amended, it is respectfully submitted that amended independent claim 1 is allowable over the art of record.

Kimura, the Examiner's primary reference, discloses the use of a plurality of nozzles 31a and 31b to direct a fluid towards the polishing cloth 23. Figure 3; Col. 5, ll. 47-64. However, as conceded by the Examiner, at no point does Kimura disclose a polishing system wherein the nozzle that is used to direct a fluid jet towards the polishing pad has an elongated-shaped opening that is adapted to direct a line-shaped fluid jet towards the polishing pad. Moreover, such a configuration is not even remotely suggested by Kimura. Kimura states that the flow velocity, flow rate, angle of spray and cross-sectional configuration of the nozzles 31a and 31b

vary from each other. Col. 5, ll. 54-56. Kimura goes on to note that the angle of the water spray from the nozzle 31a is made to be smaller than that of the water jet to be sprayed from the nozzle 31b. Such an arrangement purports to increase the pressure of the water jet striking closer to the center of the pad as compared to the pressure of the jet which strikes portions of the pad remote from the center 38. Col. 6, ll. 18-37.

Butterfield, one of the Examiner's secondary references, is directed to a unique structure of a conditioning bar comprised of a polycarbonate member and a rigid metal component wherein the polycarbonate member is disposed between the rigid metal component and at least a portion of an abrasion member or cloth. Abstract; Figure 4; Col. 4, ll. 50-59. It is respectfully submitted that any attempt to assert that the invention defined by amended independent claim 1 would be obvious in view of the combination of Kimura and Butterfield would be legally improper for many reasons. First, even if the prior art references of Kimura and Butterfield were combined, they would not teach each and every limitation of amended claim 1. That is, they would not teach a pad conditioner comprised of at least one nozzle having an elongated-shaped opening that is adapted to direct a line-shaped fluid jet towards the polishing pad. Moreover, there is simply no suggestion in the art of record to combine Kimura and Butterfield so as to arrive at Applicants' claimed invention. A recent Federal Circuit case makes it crystal clear that, in an obviousness situation, the prior art must disclose each and every element of the claimed invention, and that any motivation to combine or modify the prior art must be based upon a suggestion in the prior art. *In re Lee*, 61 U.S.P.Q.2d 143 (Fed. Cir. 2002). Conclusory statements regarding common knowledge and common sense are insufficient to support a finding of obviousness. *Id.* at 1434-35.

Fundamentally, it is unclear how a person of ordinary skill in the art would be motivated to combine the teachings of Kimura, directed to a use of a fluid jet stream to condition a polishing pad, with the teachings of Butterfield, wherein an abrasive conditioning bar is used to a polishing pad. Moreover, the uniform length and width of the conditioning bar depicted in Butterfield would appear not to achieve at least some of the purposes identified in Kimura. As indicated previously, Kimura has designed the various nozzles such that they provide higher pressure toward the center of the polishing pad 38 as compared to portions of the polishing pad distant from the center of the polishing pad. It is unclear to the undersigned how such a non-uniform pressure loading (provided by the device described in Kimura) could be implemented using the substantially uniform dimensions of the conditioning bar depicted in Butterfield. It is respectfully submitted that any attempt to assert that the invention defined by independent claim 1 would be obvious in view of Kimura and Butterfield is necessarily based upon an improper use of hindsight using Applicants' disclosure as a roadmap. Accordingly, it is respectfully submitted that independent claim 1, and all claims dependent therefrom, are in condition for immediate allowance.

Dependent claim 4 has been amended to recite that a first dimension of the line-shaped fluid jet is substantially equal to the radius of the polishing pad. It is respectfully submitted that the invention defined by dependent claim 4 is independently allowable over the art of record for at least this reason. Simply put, the unique structure is not disclosed nor suggested by the prior art of record. As understood by the undersigned, the conditioning bar disclosed in Butterfield is adapted to expand across the entirety of the polishing pad 20. See Figures 2 and 3 and associated text. Thus, even if Kimura and Butterfield were combined, the combination of such art would

not teach this limitation set forth in amended dependent claim 4. Accordingly, dependent claim 4 is believed to be allowable for independent reasons.

Independent claim 25 has been amended to recite a method involving the act of supplying a high pressure fluid to a nozzle having an elongated-shaped opening to thereby direct a high pressure line-shaped fluid jet from the nozzle towards the polishing pad to condition a surface of the polishing pad. For many of the reasons set forth above with respect to amended independent claim 1, it is likewise believed that independent method claim 25 is allowable over the art of record. Additionally, dependent claim 28 has been amended in a manner believed to be consistent with dependent claim 4. Accordingly, dependent claim 28 is likewise believed to be allowable over the art of record for similar reasons.

Pursuant to the present amendment, new claims 44-55 have been added. New claim 44 is an independent apparatus claim directed to the concept embodied in now-canceled dependent claim 18. More specifically, new independent claim 44 is directed to a system comprising a polishing pad, a polishing head and at least one nozzle coupled to the polishing head, the nozzle being adapted to direct a fluid jet toward the polishing pad to condition the polishing pad. It is respectfully submitted that the invention defined by new independent claim 44 is allowable over the art of record.

In rejecting original dependent claim 18, the Examiner relied on the combination of Kimura and Tanaka. However, it is believed that such a rejection of new claim 44 based upon such a combination of prior art would be legally improper. More specifically, although Tanaka does disclose the use of an integrated system wherein a lapping tool 46 is coupled to the polishing head 40, it is respectfully submitted that the combination of Kimura and Tanaka does not render the claimed invention as defined by independent claim 44 obvious. More specifically,

there is certainly no express suggestion in the art of record indicating how the teachings of Kimura and Tanaka would be combined. It is respectfully submitted that the only such suggestion is based upon the Examiner's use of the teachings of the present application when considering the prior art. In that Kimura is directed towards generating uneven pressure levels across the polishing pad by use of the various jets 31a, 31b disclosed therein, it is unclear why one skilled in the art would look to combine the teachings of Kimura and Tanaka when Tanaka's system is not believed to be disclose a system capable of achieving such differential pressure loadings. That is, if the art were combined in the manner suggested by the Examiner, it is believed that such a combination of the prior art would frustrate some of the objects of the invention set forth in Kimura. Accordingly, this is at least some evidence that it would be legally improper to combine the teachings of such references. Simply put, at no point does the prior art of record suggest a polishing system wherein at least one nozzle is coupled to the polishing head and the nozzle is adapted to direct a fluid jet towards the polishing pad. Such a suggestion for an invention is only set forth in Applicants' disclosure which cannot be used against them in an obviousness analysis. In view of the foregoing, it is believed that independent claim 44, and all claims dependent therefrom, are in condition for immediate allowance.

Dependent claim 47 further recites that the nozzle has a substantially elongated-shaped opening that is adapted to direct a line-shaped fluid jet toward the polishing pad. For many of the reasons set forth above with respect to amended independent claim 1, it is believed that dependent claim 47 is allowable over the art of record.

New independent method claim 50 is generally directed to a method that corresponds approximately to the apparatus set forth in claim 44. For many of the reasons set forth above, it

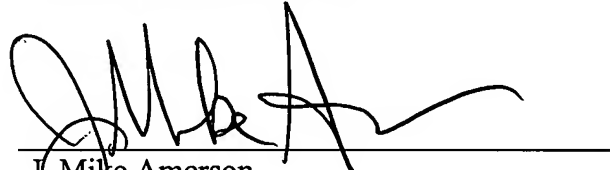
is respectfully submitted that new independent claim 50 is likewise allowable over the art of record.

New dependent claim 55 is likewise believed to be allowable for similar reasons set forth above with respect to dependent claim 47. Accordingly, allowance of dependent claim 55 is also respectfully requested.

In view of the foregoing, it is respectfully submitted that all pending claims are in condition for immediate allowance. The Examiner is invited to contact the undersigned attorney at (713) 934-4055 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read 'J. Mike Amerson', is written over a horizontal line.

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